

# Variations in Parent by Temperament Interactions across Income

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# Parenting Matters

- **Dimensions of parenting**

- **Affective**

- parental warmth & negative affect

- **Control**

- behavioral control (limit setting and discipline) & psychological control (autonomy granting, scaffolding)

- **Responsiveness**

- appropriate, sensitive, & timely responding to infant cues

- **Parenting predicts children's socioemotional adjustment**

Warmth

- Greater positive adjustment, fewer behavioral problems, increased regulatory skill, higher social competence

Limit Setting

- Fewer externalizing symptoms, greater internalizing symptoms

Responsiveness

- Greater empathy, greater prosocial behaviors, fewer externalizing symptoms.

# Temperament Matters, too

- Negative emotionality (individual differences in arousal of fear, frustration, and sensitivity to negative environmental cues)
  - High fear → internalizing; Low fear → externalizing
  - High frustration → behavior problems and poor social adj.
- Positive emotionality (individual differences in smiling, laughter, pleasure, and sensitivity to positive environmental cues)
  - Higher PA → higher social competence, fewer internalizing & externalizing problems (though more ext. problems too)
- Self regulation (individual differences in attention processes that modulate reactivity, facilitating or inhibiting an affective response)
  - Higher EC & Delay → higher social competence, fewer externalizing & internalizing symptoms

# The interaction of parenting and temperament

- May condition the relation between parenting and child adjustment
- Most support for interactions between control & responsiveness dimensions of parenting x negative emotionality & self-regulation dimensions of temperament.
  - Less support for interactions with affective qualities of parenting

- Perhaps children high in negative affect and low in self-regulation may be more adversely affected by negative parenting behaviors.
- Whereas children high in positive affect and high in self-regulation may be relatively more buffered from negative parenting behaviors.

# How does income figure into all of this?

- Childhood poverty is deleterious.
- Income correlates with parenting.
- There has been speculation that authoritarian parenting strategies might be more helpful in ensuring a child's survival in low-income setting
  - but not much support for this hypothesis
- Mothers' response to their child's temperament may vary across income.
  - If parenting and temperament interactions vary across context has not been well studied.

(e.g Conger et al. 1992, 1994; Elder 1974; Elder et al. 1992; McLeod and Shanahan 1993; McLoyd et al. 1994; Sampson and Laub 1994; Shumow et al., 1998; Steinberg et al., 1991)

# This Study

- The interaction of temperament and parenting behaviors in the prediction of child adjustment
- If these interactions operate similarly across income contexts.

# Participants & Procedure

- Participants: 306 mothers and their 36-40 mo. old children
- Two hour laboratory assessment including neuropsychological battery, parent questionnaire, outside teacher questionnaire.
- Four time points:
  - T1 & T2: baseline adjustment, temperament, & parenting (3 years old & 3.75 mo old, aggregated)
  - T4: Adjustment (5.75 years old)

## Income:

29% at or near poverty  
28% low income (below median)  
25% middle income (under \$100k)  
18% upper income (\$100k+)

## Ethnic/Racial composition:

64% European American  
10% Latino or Hispanic  
9% African American  
3% Asian  
2% Native or American Indian  
12% multi-racial/ethnic or other



# Measures: Parenting

- Mother-child interactions in the lab
- Approx 25 minutes
- Restricted Play, Unrestricted Play, Instructional Task, Clean-Up
- Dimensions:
  - **Parental warmth** (affect, interactiveness)
  - **Negativity** (affect, invalidation, harsh & critical behaviors)
  - **Limit setting** (clarity, consistency, and follow-through)
  - **Scaffolding** (guidance & structure, respect for autonomy)
  - **Responsiveness** (contingent, timely, appropriate responding)
- 1 minute epochs for all segments, averaged across epochs & segments

# Measures: Temperament

- Fear
  - Observed behavior to Fear Eliciting Task (Jumping Spider)
- Frustration
  - Observed Behavior to Frustration Eliciting Task (Locked Box & Knotted Sack)
- Effortful Control
  - Attention Regulation
    - Auditory Attention (NEPSY II), Dimensional Change Card Sort
  - Inhibitory Control
    - Inhibition (NEPSY II), Day/Night, Bear-Dragon, HTKS
  - Delay Ability
    - Observed difficulty delaying gratification
      - Reverse coded Gift Delay task
- Positive Affect
  - Observed affect during instructions of Monkey-Dragon & resolution of frustration task

# Measures: Child Adjustment

Teacher Report-

**Adjustment Problems** (internalizing and externalizing)

**Social Competence** (cooperation, assertiveness, responsibility, self-control)

Preschool teacher form of the Social Skills Rating System (Gresham & Elliot, 1990)

# Correlations (parenting)

	Income	T1 Social Comp	T1 Problems	T4 Social Comp	T4 Problems
Maternal Warmth	0.29***	0.14*	-0.09	0.07	-0.19**
Maternal Negativity	-0.34***	-0.20**	0.26***	-0.24**	0.18*
Maternal Scaffolding	0.46***	0.25***	-0.17*	0.16*	-0.23**
Maternal Limit Setting	0.32***	0.18*	-0.12*	0.12*	-0.14*
Maternal Responsiveness	0.10	0.12*	-0.02	0.02	-0.11*

# Correlations (temperament)

	Income	Warmth	Negativity	Scaffold-ing	Limit Setting	Respon-siveness	T1 Social Comp	T1 Problems	T4 Social Comp	T4 Problems
Fear	-0.04	-0.06	0.10	-0.09	0.03	-0.04	0.01	0.03	-0.05	-0.01
Frustration	-0.12*	-0.13*	0.13*	-0.10	0.02	-0.03	-0.10	0.18*	-0.10	0.16*
Positive Affect	-0.04	-0.08	-0.01	0.07	0.07	0.00	0.07	0.03	0.08	0.02
Effortful Control	-0.27***	0.24**	-0.31***	0.39***	0.22**	0.22**	0.47***	-0.37***	0.21**	-0.19**
Delay Ability	-0.22**	0.20**	-0.21**	0.30***	0.13*	0.19**	0.29***	-0.34***	0.25***	-0.33***

	Social Competence			Total Problems		
	b	SE	B	b	SE	B
Income	0.06	0.19	0.02	-0.31	0.13	-0.17*
Child Sex	-2.72	1.28	-0.14*	1.94	0.87	0.14*
Fear	-2.18	2.64	-0.05	-0.68	1.79	-0.02
Frustration	-0.11	1.30	-0.01	0.51	0.89	0.04
Positive Affect	0.91	1.03	0.06	0.23	0.10	0.02
Effortful Control	-0.85	5.12	-0.01	2.83	3.30	0.06
Delay Ability	7.07	3.17	0.16	-5.56	2.17	-0.17**
Negativity	-6.17	2.25	-0.23*	-0.31	1.56	-0.02
Warmth	0.21	2.25	0.01	-1.53	1.54	-0.08
Scaffolding	-1.76	2.17	-0.08	-0.31	1.48	-0.02
Limit Setting	0.63	1.39	0.03	-0.15	0.92	-0.01
Responsiveness	-2.03	1.18	-0.11	-0.28	0.99	-0.02

# Interactions – frustration

	Social Competence			Total Problems		
	b	SE	B	b	SE	B
<i>Frustration</i>						
x Negativity	-5.81	3.39	-0.14 <sup>t</sup>	-0.16	2.26	-0.01
x Warmth	-3.41	4.30	-0.06	-2.75	2.93	-0.07
x Scaffolding	-1.49	4.21	-0.04	4.91	2.91	0.18 <sup>t</sup>
x Limit Setting	7.11	3.21	0.18 <sup>*</sup>	-2.80	2.19	-0.10
x Responsiveness	1.38	3.12	0.04	-1.20	2.01	-0.05

# Frustration x Limit Setting → Social Competence

Social Competence on

Frustration	-0.57
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Limit Setting	0.34
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Frustration x Limit Setting	7.11
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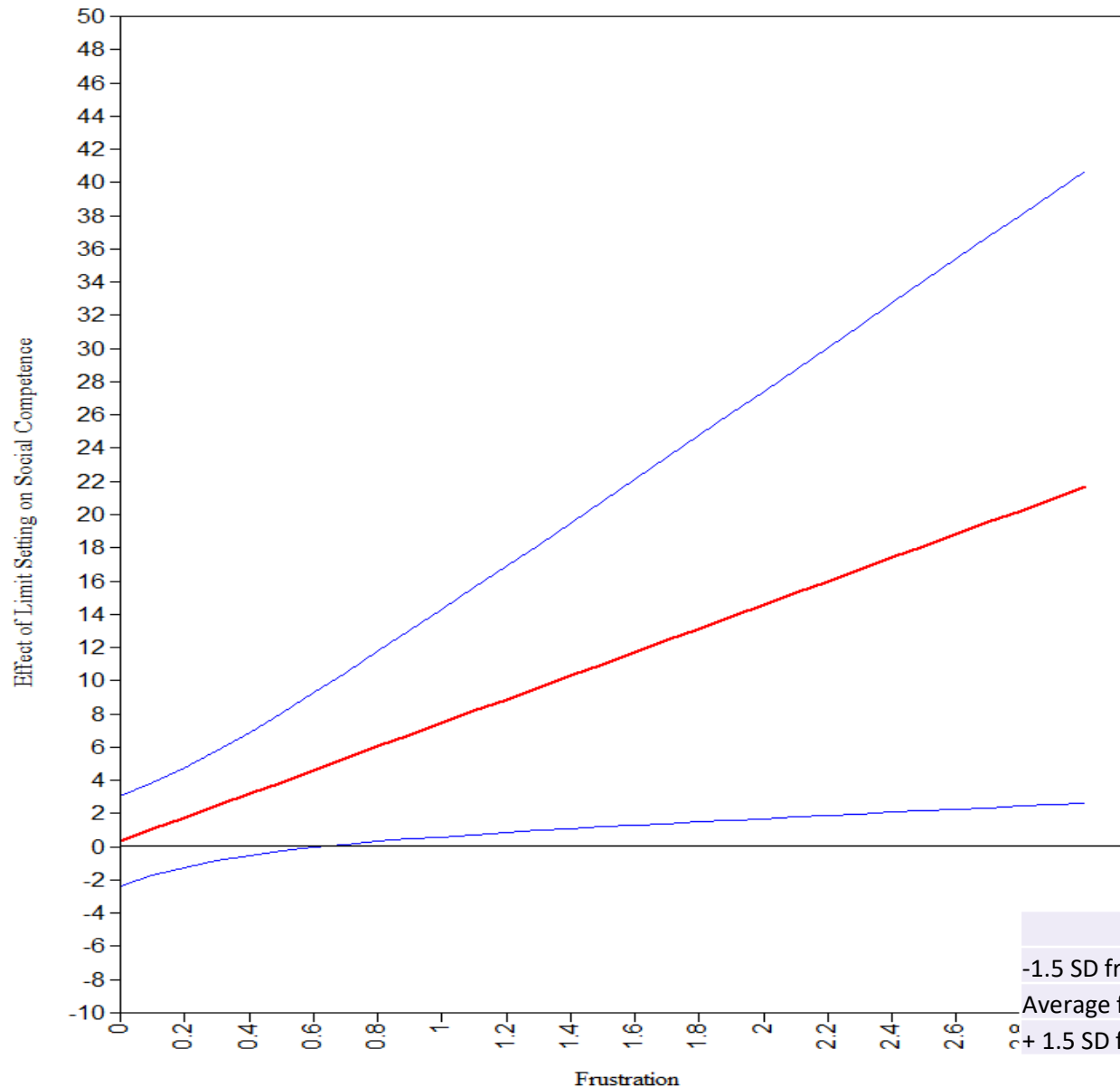
Intercepts

Social Competence	34.86
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Adjusted effect of limit setting on health = Limit Setting + Interactive effect\* (Frustration)



- The interaction of limit setting and frustration predicts changes in social competence.

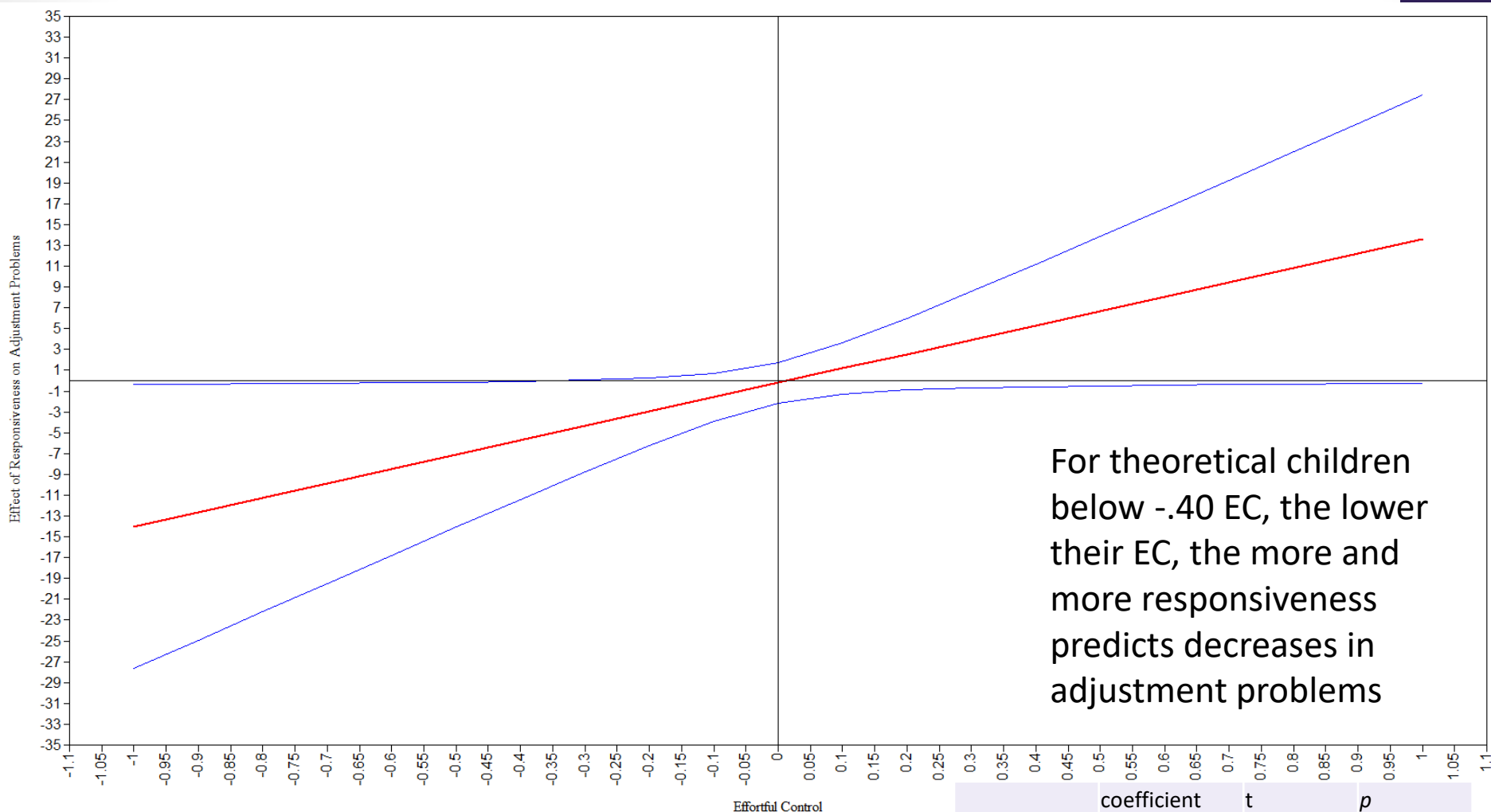


For children .65 and above on frustration, the higher their frustration, the more and more limit setting predicts increases in social competence

# Interactions – effortful control

	Social Competence			Total Problems		
	b	SE	B	b	SE	B
<i>Effortful Control</i>						
x Negativity	-25.82	16.38	-0.15	6.78	11.48	0.06
x Warmth	18.55	17.36	0.10	-12.91	0.28	-0.09
x Scaffolding	-17.81	12.78	-0.13	4.52	0.59	0.05
x Limit Setting	2.22	9.55	0.02	-6.28	0.3	-0.07
x Responsiveness	4.87	10.47	0.05	13.8	0.05	0.21*

The interaction of responsiveness and effortful control predicts changes in total problems.

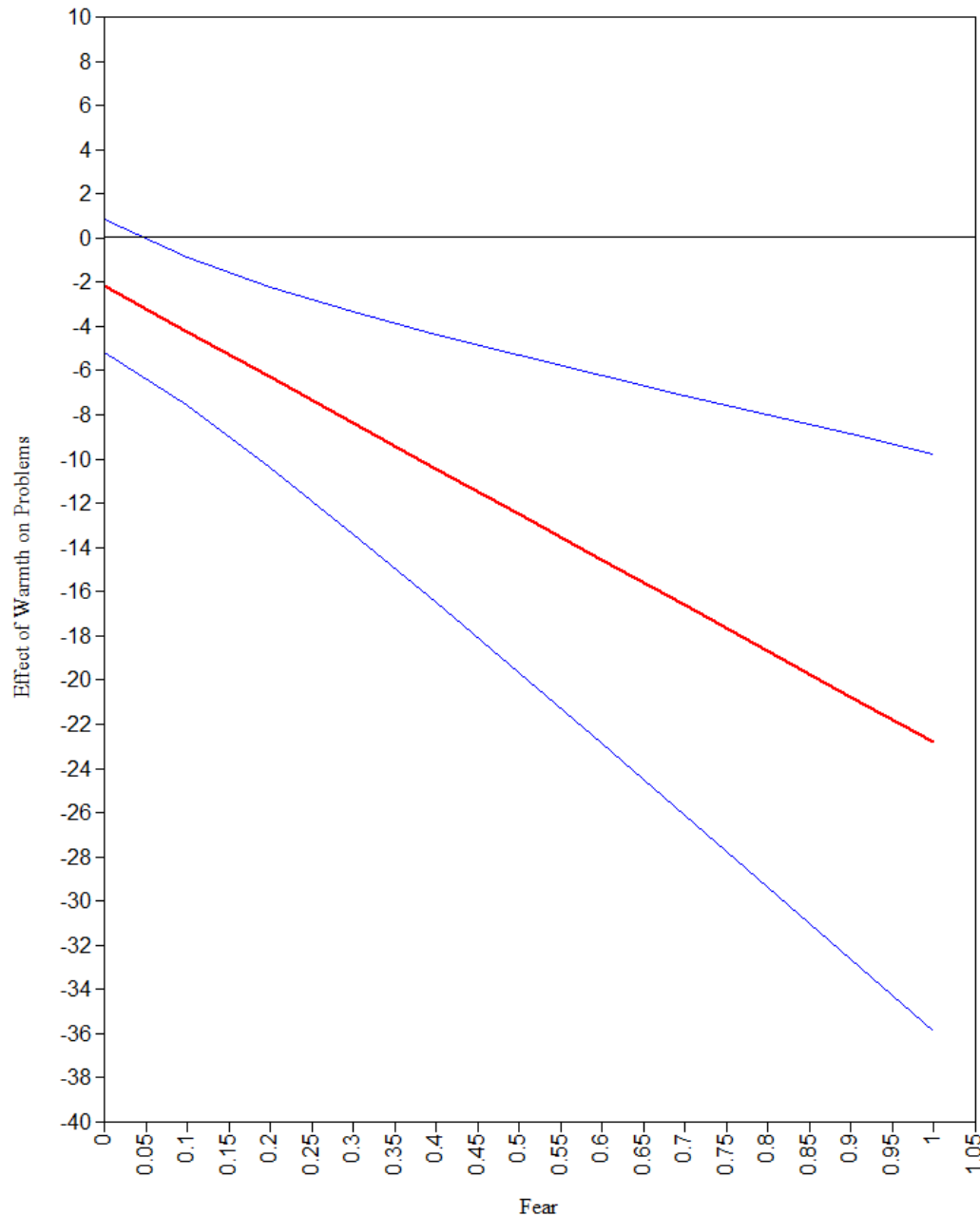


	coefficient	t	p
-1.5 SD EC	1.87	1.26	0.21
Average EC	5.08	1.76	0.080
+ 1.5 SD EC	8.29	1.87	0.060

# Interactions – fear

	Social Competence			Total Problems		
	b	SE	B	b	SE	B
<i>Fear</i>						
x Negativity	-8.50	9.15	-0.08	4.54	6.34	0.06
x Warmth	16.63	9.47	0.14	-20.67	6.33	-0.25***
x Scaffolding	-12.42	8.96	-0.13	9.93	5.87	0.15 <sup>t</sup>
x Limit Setting	-0.11	6.36	0.00	3.41	4.05	0.06
x Responsiveness	-9.03	6.32	-0.12	1.51	4.18	0.03

The interaction of warmth and fear predicts changes in total problems.



For children above .05 fear, the more and more fear, the more and more warmth predicts decreases in adjustment problems

	coefficient	t	p
-1.5 SD fear	-3.10	-1.96	0.05
Average fear	-10.57	-3.37	0.001
+ 1.5 SD fear	-18.04	-3.43	0.001

# Interactions – positive affect

	Social Competence			Total Problems		
	b	SE	B	b	SE	B
<i>Positive Affect</i>						
x Negativity	4.37	3.22	0.11	-1.23	2.19	-0.04
x Warmth	4.38	3.68	0.09	-0.80	2.57	-0.02
x Scaffolding	0.22	3.54	0.01	-0.93	2.43	-0.04
x Limit Setting	-0.47	2.22	-0.02	0.16	1.47	0.01
x Responsiveness	2.02	2.63	0.06	0.30	1.76	0.01

# Interactions – delay ability

	Social Competence			Total Problems		
	b	SE	B	b	SE	B
<i>Delay Ability</i>						
x Negativity	3.06	10.38	0.03	7.72	6.95	0.09
x Warmth	-4.82	10.38	-0.03	-2.81	7.05	-0.03
x Scaffolding	-2.65	9.91	-0.03	2.13	6.57	0.03
x Limit Setting	9.57	6.31	0.12	-7.39	4.06	-0.13
x Responsiveness	6.64	7.49	0.06	4.56	4.96	0.06



# Are findings conditioned on income?

- Constrained the models to be equal across income groups or free to vary across groups (poverty, low, mid, high).
- No differences, as evidenced by ns  $\chi^2$  difference tests

frustration & social competence			
	$\chi^2$ difference	df	p
full model	57.41	239	ns
ec & adjustment problems			
	$\chi^2$ difference	df	p
full model	57.43	239	ns
fear & adjustment problems			
	$\chi^2$ difference	df	p
full model	17.29	239	ns



# Results

- Few main effects of temperament (delay → problems) & parenting (negativity → social competence)
- Few interaction effects
  - Fear: (x warmth → problems)
  - Frustration: (x limit setting → social competence)
  - PA: 
  - EC: (x responsiveness → problems)
  - DA: 
- Support for role of negative emotionality and self regulation interacting with affective, control, and responsiveness dimensions of parenting
- Interactions are not further conditioned on income.



# Strengths & Limitations

- Few studies to date interactions across domains of parenting (affective, control, responsiveness) and temperament (NE, PA, self-regulation) in the preschool period.
- No known studies examining income in these relations
- Strengths:
  - Multiple assessment methods
  - Longitudinal design
- Limitations:
  - Unable to examine ethnicity
  - Community sample
  - Laboratory observation
  - No experimental manipulation

# Implications

- Improve understanding of children high in negative affect and low in self-regulation may be more adversely affected by negative parenting behaviors and buffered by positive parenting behaviors
- Interventions applicable across income categories

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